ELEC 391 – Final Project

Summer 2025

Self-Balancing Robot

Optimization:

1. Minimize self-balancing oscillations while stationary (target: < **±4 cm)**.

2. Maximize the ramp angle at which the robot can autonomously ascend, remain stationary, and descend (target: **>15°**).

3. Maximize the tilt angle from which the robot can autonomously recover to an upright position on a flat surface (target: **>15°**).

Timeline: